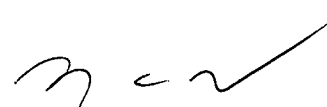


<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number Q86499	
Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number	Filed	
	10/526,225	February 8, 2006	
	First Named Inventor		
	Yoshikazu KAKURA		
	Art Unit	Examiner	
	2611	Leon Viet Q NGUYEN	
<p style="text-align: center;">WASHINGTON OFFICE <b>23373</b> CUSTOMER NUMBER</p>			
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal</p> <p>The review is requested for the reasons(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p><input checked="" type="checkbox"/> I am an attorney or agent of record. Registration number <u>62,867</u></p>			
		 Signature	
		Nathaniel C. Wilks Typed or printed name	
		(202) 293-7060 Telephone number	
		September 10, 2009 Date	

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q86499

Yoshikazu KAKURA, et al.

Appln. No.: 10/526,225

Group Art Unit: 2611

Confirmation No.: 6775

Examiner: Leon Viet Q NGUYEN

Filed: February 8, 2006

For: RADIO TRANSMITTER-RECEIVING APPARATUS AND RADIO TRANSMITTING-RECEIVING METHOD FOR ESTIMATING NOISE AND INTERFERENCE POWER IN RADIO TRANSMISSION USING CODE SPREAD

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

**MAIL STOP AF - PATENTS**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Pursuant to the Pre-Appeal Brief Conference Pilot Program, and further to the Examiner's Final Office Action dated *June 10, 2009*, Applicant files this Pre-Appeal Brief Request for Review. This Request is also accompanied by the filing of a Notice of Appeal.

Applicant turns now to the rejections at issue:

**Claim Rejections - 35 U.S.C. § 103 - Claims 1, 2, and 7**

Claims 1, 2 and 7 currently stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over the background of the Applicant's specification in view of Xiao ("A Novel MC-2D-CDMA Communication System and Its Detection Methods" 2000 IEEE International Conference on Communications, Publication Date: 2000 Volume: 3, Pages: 1223-1227).

Applicant respectfully traverses this rejection for the following reasons.

Claim 1

Applicant submits that the combination of the background of the specification and Xiao do not teach the current invention recited in claim 1. It is only described in Xiao that Walsh codes on the frequency axis are multiplied by Walsh codes on the time axis, thereby realizing two-dimensional orthogonal codes. Claim 1, on the other hand, recites spreading codes that are used in communication so as to be orthogonal on the frequency and/or on the time axis. In this manner, despreading codes can be adaptively assigned by considering fluctuation of propagation paths on the frequency axis and on the time axis, which is an advantage that the technique of Xiao cannot accomplish. Therefore, the combination of the background of the specification and Xiao would fail to teach all the elements of claim 1.

Further, the combination of the background of the specification and Xiao would fail at least because modifying the background of the specification with the teachings of Xiao would render system described in the background of the specification inoperable for its intended purpose. The background of the specification discloses a CDMA system and an MC-2D-CDMA system that use orthogonal spreading codes. A signal that is spread using any combination of the orthogonal codes will effectively be canceled out by a despreading code that is not within that combination, assuming that there is no noise or interference or channel fluctuation. Xiao does not operate in this manner.

Instead, Xiao generates a spreading code that includes two components,  $a_k$  and  $c_k$ , and these components are orthogonal to themselves. However, the total code is not orthogonal. For

instance, the 2-bit WALSH codes are (1,1) and (1,-1). This would lead to spreading codes of (1,1,1,1) and (1,1,1,-1) for example. These codes are not orthogonal with each other. These codes would work properly in Xiao, but would not work in the systems disclosed in the background of the specification. The codes are not orthogonal, so the despreading signal in the MC-2D-CDMA system in the background of the specification would not cancel out the signal. As such, modifying the MC-2D-CDMA system of the specification with the teachings of Xiao would render it inoperable for its intended purpose, and would require an extensive redesign to operate properly. Thus, it would not have been obvious to modify the background of the specification with the teachings of Xiao to produce the current invention.

For at least these reasons, and the additional reasons set forth in the Amendment filed on February 25, 2009, Applicant submits that claim 1 is patentable over the cited references.

**Claims 2 and 7**

For analogous reasons to those discussed above, Applicant submits that claim 7 is patentable over the cited references. Applicant submits that claim 2 is patentable at least by virtue of its dependency.

**Claim Rejections - 35 U.S.C. § 103 - Claims 3 and 4**

Claims 3 and 4 currently stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over the background of the Applicant's specification in view of Xiao, and further in view of Uesugi (U.S. Patent App. Pub. No. 2004/0042386). Applicant respectfully traverses this rejection.

Claim 3

Applicant submits that Uesugi fails to overcome the deficiencies of the background of the specification and Xiao. Therefore, claim 3 is patentable at least by virtue of its dependency on claim 1 and for these additional reasons.

The device of Uesugi involves modifying the spreading factors in each dimension of a two dimensional spreading code, yet keeping orthogonality between the codes. (Uesugi, paragraphs 54-55). The spreading factor is essentially the length of the spreading code. While Uesugi does monitor the channel fluctuation to determine the optimum spreading factor in the time axis and the frequency axis, it would not make it obvious to use its monitoring function to modify the combination of the background of the specification and Xiao at least because it would be using the function of Uesugi for a purpose other than what it was intended for. Uesugi monitors the channel situation to determine optimum spreading factors, not to assign spreading codes that are orthogonal on a selected axis.

Further, it would not be obvious to incorporate a means for detecting channel fluctuation into Xiao along with assigning spreading codes based on the channel fluctuation. There is no suggestion in Xiao to assign codes based on channel fluctuation. Instead, Xiao operates by assigning WALSH codes to the M chips of the spreading code and also assigning WALSH codes to the N chips of the spreading code all the time.

For at least these reasons, Applicant submits that claim 3 is patentable over the cited references.

Claim 4

Applicant submits that Uesugi fails to overcome the deficiencies of the background of the specification and Xiao. Therefore, claim 4 is patentable at least by virtue of its dependency.

Claims 5 and 6

Applicant submits that neither Sudo (U.S. Patent App. Pub. No. 2004/0071078) nor Sumasu (U.S. Patent Pub. No. 2004/0028007) cure the deficiencies discussed above. Therefore, Applicant submits that claims 5 and 6 are patentable at least by virtue of their dependencies.

Respectfully submitted,



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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: September 10, 2009